

University of Arkansas, Fayetteville

ScholarWorks@UARK

Mole Street Journal

Chemistry and Biochemistry

5-2011

Mole Street Journal, April 2011

University of Arkansas, Fayetteville. Dept. of Chemistry and Biochemistry

Follow this and additional works at: <https://scholarworks.uark.edu/mole-street-journal>

Citation

University of Arkansas, Fayetteville. Dept. of Chemistry and Biochemistry. (2011). Mole Street Journal, April 2011. *Mole Street Journal*, 10 (4) Retrieved from <https://scholarworks.uark.edu/mole-street-journal/48>

This Periodical is brought to you for free and open access by the Chemistry and Biochemistry at ScholarWorks@UARK. It has been accepted for inclusion in Mole Street Journal by an authorized administrator of ScholarWorks@UARK. For more information, please contact ccmiddle@uark.edu.

THE MOLE STREET JOURNAL

DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

APRIL 2011

VOLUME 10, ISSUE 4

Honors Student Receives ACS Fellowship

Honors College student and chemistry major **Spencer Shinabery** is one of 14 students selected across the nation to receive a Summer Undergraduate Research Fellowship from the American

Chemical Society's Division of Organic Chemistry.

The fellowship will fund Shinabery's second summer of research developing photocatalysis for organic synthesis,

the subject of his honors thesis, with his research mentor **Nan Zheng**.

Shinabery is using sunlight to develop a more efficient process that is also new chemistry, never done before. The bicyclic heterocycles that he is working on are hard to make. He is working on the synthesis and the control of the stereochemistry, which would be very interesting to pharmaceutical companies.

Later this summer, Shinabery will attend an all-expenses paid trip to the Pfizer Global Research and Development site in Groton, Conn., where all fourteen fellows will present their research findings.

Profiles of the fellows will be published in a forthcoming issue of *The Journal of Organic Chemistry*.

He is a graduate of Little Rock's Catholic High School, and is the son of Dede and Mark Shinabery of Maumelle.



Spencer Shinabery with research advisor Nan Zheng. *Photo by Trent Sugg*

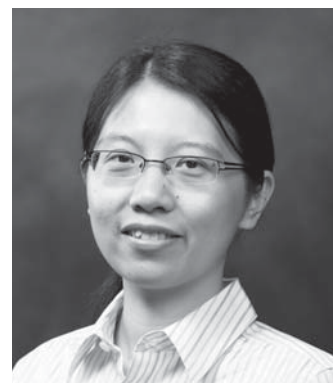
Chen Wins Ralph E. Powe Junior Faculty Enhancement Award

Assistant Professor **Jingyi Chen**, is one of 30 scientists to win the Ralph E. Powe Junior Faculty Enhancement Award from the Oak Ridge Affiliated Universities (ORAU). Chen's proposal "Chemical Synthesis of Metal-Semiconductor Core-Shell Nanostructures," was selected from a pool of 118 applicants. The University of Arkansas will match the \$5,000 award.

The funding will support her research to establish robust and controllable chemical approaches for the synthesis of multi-functional inorganic nanomaterials with well-defined size, shape and composition. Specifically, a universal method will be developed to synthesize a variety of metal-semiconductor core-shell

nanostructures through a chalcogen-mediated pathway. By manipulating the parameters of chemical synthesis, one can precisely control the structure of the core-shell nanomaterials, and thus their optical and electronic properties for biological and photovoltaic applications.

The Ralph E. Powe Junior Faculty Enhancement Awards provide seed money for research by junior faculty at ORAU member institutions. These awards are intended to enrich the research and professional growth of young faculty and result in new funding opportunities. Only full-time assistant professors at ORAU member institutions within two years of their initial tenure track appointment are eligible to apply.

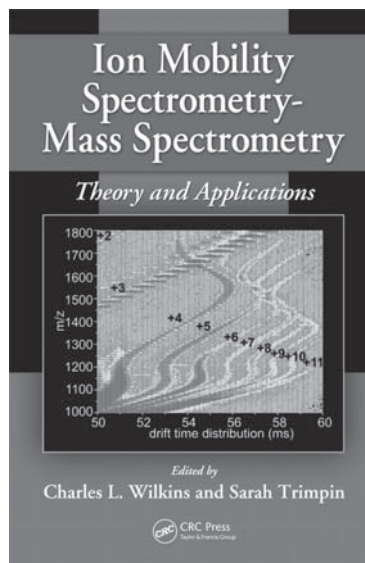


Jingyi Chen

Faculty News

Research News

Charles Wilkins has published his ninth book: *Ion Mobility Spectrometry - Mass Spectrometry: Theory and Application* (ISBN:9781439813249), CRC Press, Boca Raton, FL (2011).



The text explores ion mobility spectrometry-mass spectrometry (IMS-MS) and explains how it is applied to polymeric architectures, cellular processes, tissue imaging, and biomolecules, such as carbohydrates and peptides. The tools, techniques, and applications involved when molecular size and shape information is combined with the well-known analytical advantages of high-performance mass spectrometry are also covered.

This work helps those unfamiliar with IMS-MS to understand its fundamental theory and practical applications. It also encourages them to investigate the potential analytical uses of IMS-MS and further explore the power of this method.

Developers and users of the technology are contributors to the book, which has 100 color figures on an accompanying CD-ROM.

The book is co-edited by Sarah Trimpin, Assistant Professor of Chemistry at Wayne State University (Detroit).

Symposium to Honor Alumnus Ves Childs

A symposium honoring the late **Ves Childs**, M.S. '60, Ph.D. '63, "Electrosynthesis and Electrochemical Processes, in Honor of W. Ves Childs," will take place during the 219th meeting of the Electrochemical Society (ECS). May 1-6, 2011 in Montreal, Canada.

Ingrid Fritsch will present "Toward On-Chip Processes Using Redox-Magnetohydrodynamic Microfluidics without Channels."

Fritsch is one of 18 to speak during the session, which includes topics on fluorine electrochemistry and speakers from 3M.

Holly Childs, B.S. '62, and **Lisa Childs** will attend.

See <http://www.electrochem.org/meetings/biannual/219/219.htm> for more information.

SURF Awards

Chemistry majors and faculty are among those receiving Student Undergraduate Research Fellowships (SURF).

Only undergraduates with at least a 3.25 GPA who are planning a research project for the coming year can apply.

The SURF program was created in 1992 with a start-up grant from the National Science Foundation and two years later funding for the fellowships shifted to the state of Arkansas.

The fellowship program is designed to provide high-achieving students the funds to conduct in-depth research in various fields while fostering positive relationships between student researchers and faculty mentors.

Undergraduates and faculty mentors

- **Courtney Cagle** and Jeffrey Silberman (BISC)
- **Nicholas Tingquist** and **Suresh Kumar**
- **Ashlee Bell-Cohn** (BISC) and **Roger Koeppe**
- **Iris Celeste Kon Njewel** (BISC) and **Paul Adams**
- **Shannon Mumma** and **Wesley Stites**
- **Ashley Rosenberg** and **Matt McIntosh**

On the Go

Roger Koeppe presented "Steps Toward Understanding the Lipid Interactions and Dynamics of Transmembrane Domains," at the department of cell physiology and molecular biophysics at Texas Tech University, March 31.

Julie Stenken gave a talk "In vivo Microdialysis in Subcutaneous Space and Brain in Rats," during a workshop at the Experimental Biology 2011 meeting in Washington D.C., April 9.

Nanotechnology and Health Care Conference, April 6-9, at the Winthrop Rockefeller Institute

Ryan Tian served on the conference planning committee with university colleagues Ralph Henry (BISC), Ajay Malshe (MEEG) and Greg Salamo (PHYS).

Tian presented a poster "Tuning Interfacial Nanochemistry in 3D for Translational Nanomedicine," Feng Chen, Daniel Fologea, Z. Ryan Tian, Syed Ali, Hari Sharma, Joshua Epstein.

Jingyi Chen gave an oral presentation "Polymer-Covered Nanocages for Drug Delivery."

Colin Heyes gave an oral presentation "Understanding the Chemistry and Physics of Biofunctional Quantum Dots at the Ensemble and Single Molecule Level: Implications for Biomedical Research."

Jose Aldana presented a poster "Tailoring the Synthesis of CdTe Quantum Dots for Fluorescence Imaging Applications," Jose F. Aldana and Colin D. Heyes.

Samir Jenkins presented a poster "Engineering Magnetic-Gold Nanostructures for Controlled Drug Delivery," Samir V. Jenkins, Kim Reynolds, Jingyi Chen.

Hiroko Takeuchi presented a poster "Binding and Exchange of Thiols (R-SH) to Water-Soluble Quantum," Hiroko Takeuchi, Derrel Walters and Colin D. Heyes.

Daniel Fologea presented a poster with HHMI students as coauthors, "Multivalent Ions Biosensor Based on Lysenin Nano-channels," Daniel Fologea, Redwan Al Faori, Eric Krueger, Yuriy Mazur, Matt Kern, Matt Williams, **Amir Mortazavi**, Ralph Henry, Greg Salamo.

Student News

Dean's List Fall 2010

About 25% of chemistry majors made the Dean's List for Fall 2010.

To be eligible for the Dean's List, students must achieve a term grade point average in the top 10% of their class in their college and have attempted a minimum of 12 credit hours in that term. In Fulbright College, it is not unusual for more than 10% of each class to earn a perfect 4.0 with a minimum of 12 attempted credit hours.

Four additional students made the list but are not listed because of FERPA restrictions.

Mathias M. Bellaiche
 Claire E. Bewley
 Rose Kathleen Brorsen
 Natalie A. Brown
 Kaitlyn D. Bryant
 Courtney Anna Cagle
 Emily Meagan Crossfield
 Stephen Dalby
 Kanesha Danielle Day
 Bethany Paige Doss
 Jacob Joseph Dufour
 Samuel Hunter Dunn
 Gray K. Edwards
 Amir V. Francis
 Evan Christopher Gill
 Taylor Damian Gohman
 Lauren A. Hall
 Ross A. Harmon
 Hannah Marie Henson
 Dirk Alexander Herrmann
 Emily A. Hoover
 David S. Hopkins
 Christian Hundshammer
 Sigrid Leigh Johannesen
 Thomas Alexander Jones
 Wibke Beatrice Huberta
 Kachel
 Emily L. Keen
 Alyssa Michelle Kelley
 Rebekah Langston
 Vince S. Lovely
 Nabih N. Masri
 Matthew Wayne McMahon

Morgan Page Merriman
 Rhys Clinton Moore
 Michael James Mullarkey
 Devin Michael O'Dea
 Edouard Marc Oudin III
 Rachael Anastasia Pellegrino
 Kaila Michelle Pianalto
 Andreas Johannes
 Poschenrieder
 Andrew Beckam Price
 Derek B. Pyland
 Leah K. Ramey
 Kimberly Yoojin Reynolds
 Kara S. Robertson
 Ashley Gabrielle Rosenberg
 Ryan S. Shinabery
 Colby E. Smith
 Christopher Eduard Sonntag
 Kelsey Ann Sparks
 Gayatri Suresh Kumar
 Daniil Tchakhalian
 Galen W. Tobey
 Jake Allen Usery
 Daniel T. Vo
 Nancy T. Vo
 Megan Rebeka Wary
 Kirby N. Welston
 Fang Qiang Weng
 Catriona Elizabeth Whiteside
 Brittany C. Willard
 Caitlin Rachel Williams
 Ji Yean Yoo

News from the ACS-SA

Officers Elected

The American Chemical Society Student Affiliate (ACS-SA) elected new officers for 2011-2012 at the March meeting. All the elected officers are chemistry majors.

President — **Arshan Dehbozorgi**
 Vice President — **Shirley Xie**
 Secretary — **Chase Ross**
 Treasurer — **Keaton Piper**

Springfest

The ACS-SA plans to participate in Springfest on Dickson Street Saturday, April 30. Contact **Molly Steen**, msteen@uark.edu, to volunteer. Steen is the outgoing president of the ACS-SA.

ASC-SA Teaches Girl Scout Class by Molly Steen

On Saturday, March 5, the ACS-SA taught a group of 15 Girl Scouts at the Scouting University program on campus. Scouting U is an annual event held by the Alpha Phi Omega service organization.

Every year, hundreds of Boy Scouts and Girl Scouts meet on a Saturday morning for a fun-filled day of learning in order to earn merit badges.

This year, the ACS-SA was asked to teach a class, "Science Sleuth." We educated the 6 to 9 year olds in a variety of subjects ranging from the properties of water and light to fingerprints, genetics, and vibrations. Along with each lesson, we had fun activities in order to demonstrate the scientific concepts that we were teaching.

Scouting U was a rewarding experience for students and teachers alike, and one that I hope the ACS-SA will participate in again in the future!

Second Annual Student/Faculty Meet & Greet

by Molly Steen

On March 9, the ACS-SA hosted its second annual Student/Faculty Meet & Greet event for the department. The event is an opportunity for networking and for students to potentially find a research mentor within our department.

Faculty in attendance included **Dr. Julie Stenken**, **Dr. David Paul**, **Dr. Peter Pulay**, and **Dr. Wes Stites**.

The format of the event allows each faculty member time to introduce potential undergraduate research opportunities to the students and for the students to question the faculty.

In addition, Dr. Paul's presentation outlined the many diverse research opportunities available for undergraduates here on campus as well as across the country in the form of REUs (Research Experience for Undergraduates).

With over 40 undergraduates attending the event, we felt that it was a great success! We hope that the event will be an even greater success in the semesters to come, and the ACS-SA would like to extend the sincerest appreciation to the faculty members who participated and made the event a success.

Safety Tip

**Check your waste accumulation
 area for cleanliness and old
 containers that should be removed**

Calendar of Events

April

- 01..... CUME
- 01..... Last day to drop a full semester class or classes with a mark of "W"
- 04..... Department seminar
- 04-15 Priority registration for summer and fall
- 11..... Department seminar
- 15..... CUME
- 15..... Deadline for graduate students to orally defend proposal to committee
- 15..... Last day to make up incomplete marks from previous semester
- 18..... Department seminar
- 21..... Department Honors Night
- 25..... Department seminar

May

- 02..... Spring seminar series concludes
- 05..... Last day of spring classes
- 06..... Dead day, no classes
- 07-13 Final exams
- 14..... University commencement
- 22..... REU/INBRE summer programs begin
- 23..... First day of classes SSI
- 23..... REU/INBRE Meet the Summer Students reception
- 30..... Memorial Day, university closed

July

- 01..... Last day of classes SSI
- 04..... Independence Day, university closed
- 05..... First day of SSII classes
- 28..... REU/INBRE poster session and luncheon

August

- 12..... Last day of classes SSII
- 15..... New graduate students arrive on campus
- 22..... First day of the fall 2011 semester

The above dates and events are listed on the department's Blackboard site
<https://learn.uark.edu/>

Honors Night

Junior and senior undergraduate honors students will make poster presentations of their research Thursday, April 21, from 4 p.m. to 5 p.m. at the UARK Ballroom on Dickson Street.

The poster session is open to the public.

Meet the Summer Students

The annual reception to meet the incoming summer students (REU and INBRE) and introduce them to their research mentors and laboratories will be Monday, May 23 at 2:30 p.m. in CHEM 105.

April Birthdays

- 02..... Timothy Beng
- 05..... Janice Chapman
- 17..... Maher Abu-Libdeh
- 24..... Silvana Dormi
- 29..... Jeremy Durchman

The publishing of birthdays is not intended to invade the privacy of anyone. If you prefer not to be included, please let us know.

Library Hours

CHBC Library (CHEM 225)
<http://libinfo.uark.edu/chemistry>

Monday - Thursday ...8 a.m. to 9 p.m.
 Friday8 a.m. to 6 p.m.
 SaturdayCLOSED
 Sunday.....2 p.m. to 6 p.m.

CUMES

The last opportunity for graduate students to take spring cumulative exams is Friday, April 15 in CHEM 144 at 5 p.m.

The department of chemistry and biochemistry at the University of Arkansas strives for excellence in research, teaching and service in chemistry — the central science.

We aspire to positions of leadership regarding the discovery of new scientific knowledge, the training of students, and the economic development of the State of Arkansas.

We seek to recruit and retain a diverse group of the best faculty, students and staff to address the challenges of the future through interdisciplinary and multidisciplinary research and education.